SuperStorage 2021 Product Roadmap

SSG | June 2021

Data Center Storage Applications Characteristics
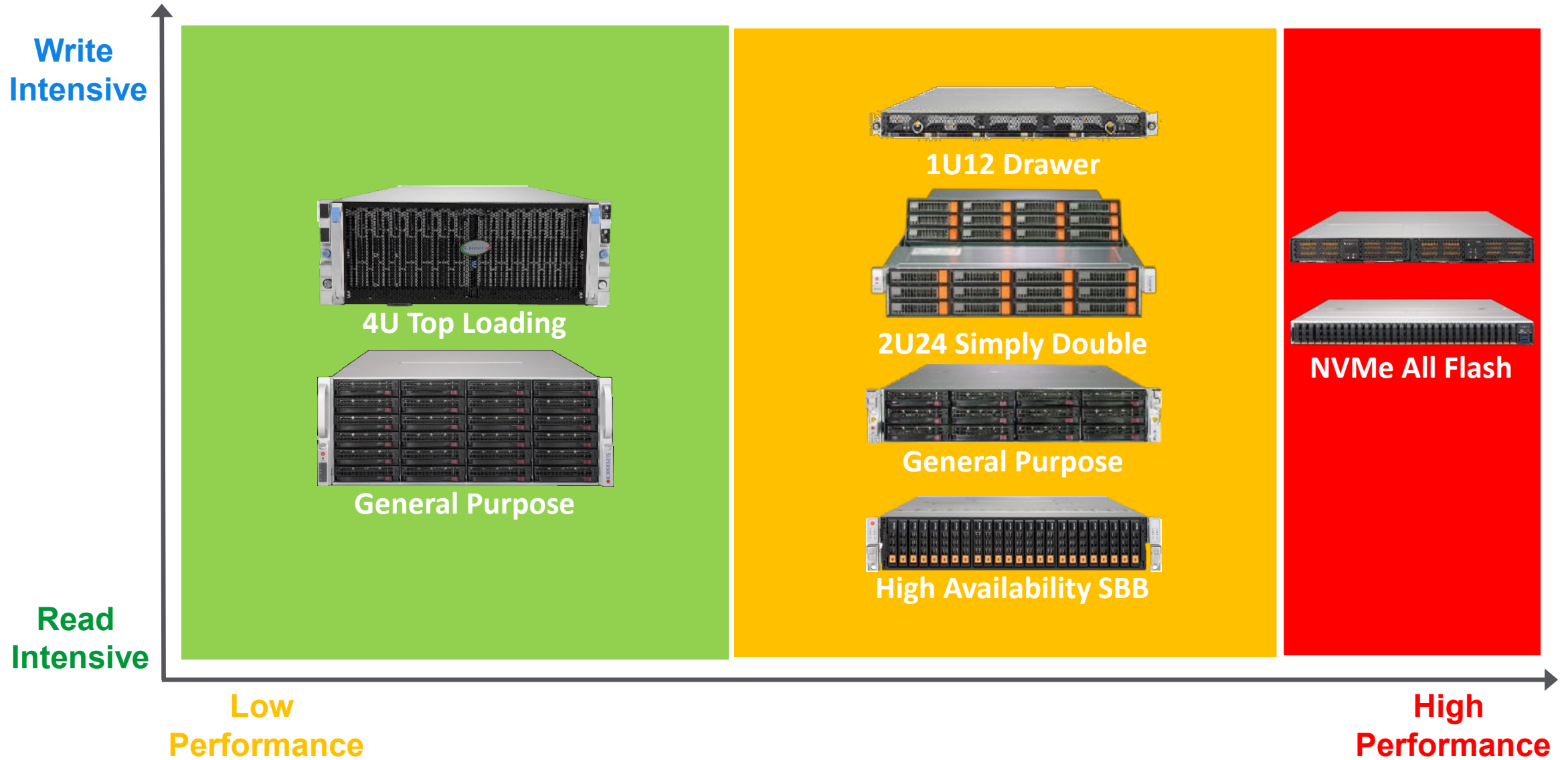

Source : https://www.snia.org/educational-library/tiered-storage-deployments-24g-sas-2020
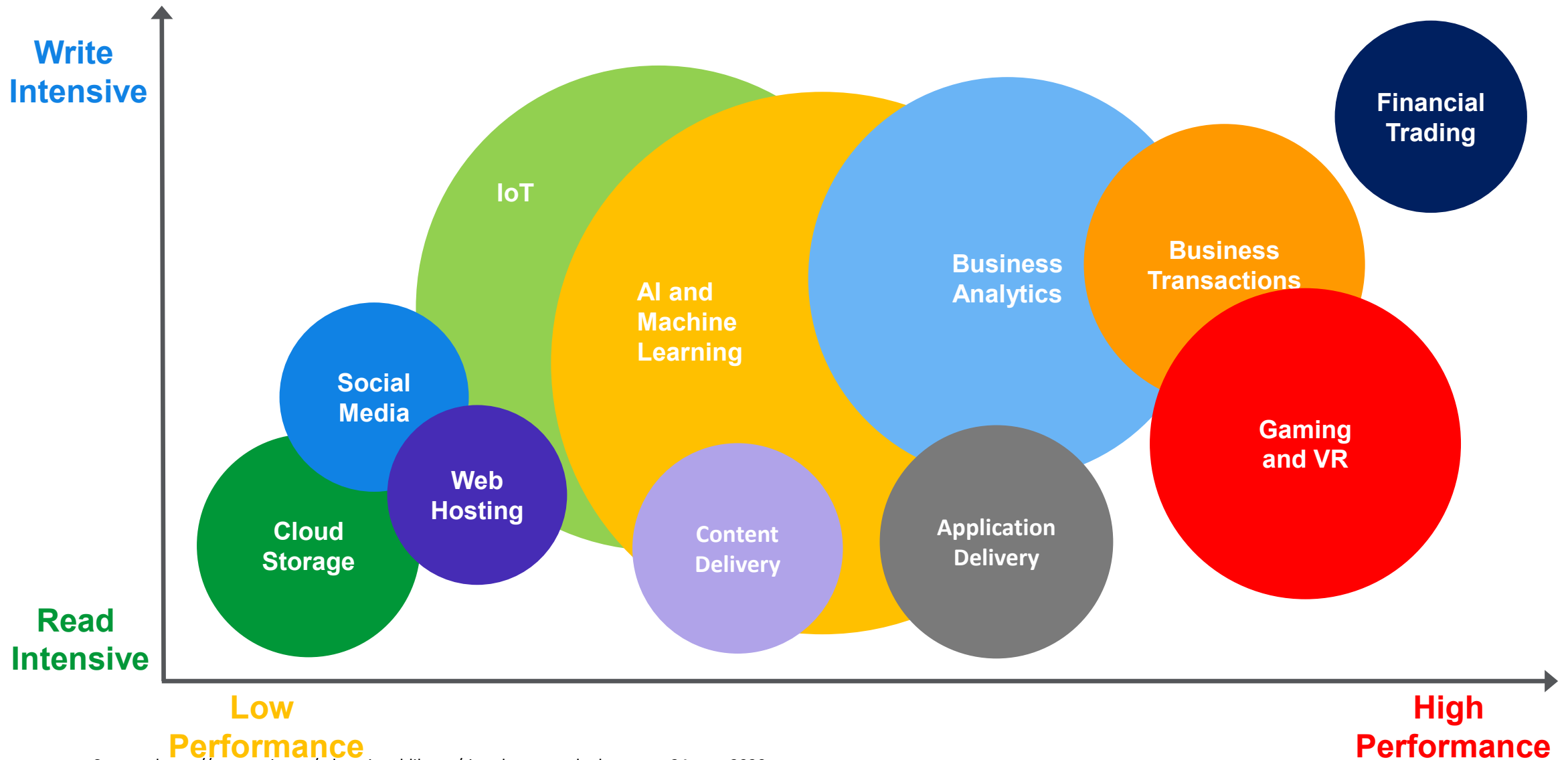
Data Center Storage Tiered Requirements

Cold-Tier
Large-Scale
Low Power and low cost
High Capacity
$/TB

Warm-Tier
Scalability
Balance of Capacity, Performance and Cost
Redundancy

Hot-Tier
Performance
Latency
$/IOPS

Write Intensive

Read Intensive

Low Performance

High Performance

SuperStorage Product Portfolio

Write Intensive

Read Intensive

4U Top Loading

General Purpose

1U12 Drawer

2U24 Simply Double

General Purpose

High Availability SBB

NVMe All Flash

Low Performance

High Performance

SuperStorage Portfolio

Cloud Scale Top Loading Storage	Enterprise Optimized General Purpose Storage	Peta Scale NVMe All-Flash Storage
Capacity and TCO Software Defined Scale-Out Unstructured Object Store	Optimal Building Block Enterprise Scale-UP Structured File/Block	Density, Throughput and Latency Composable NVMe over Fabric Structured Parallel File System

Cloud & Core Data Center	Converged Infrastructure	ROBO & Edge	HPC & AI

Storage – Top Loading Family

New 4U Top Loading Platform Advantages

Simplicity
Unify chassis and boards design for Single Node, Dual Node, HA (SBB) Mode and JBOD Expansion.

Scalability
Up to 90 SATA/SAS3 HDD bays and 4 NVMe SSD, 3 PCIe expansion slots, easily scale up for both Capacity and Performance.

Agility
Support Dual Intel Xeon Scalable processors, new SAS expander design and NVMe Cache Ready.

Flexibility
Support 3.5", 2.5", SAS3, SATA3 HDD or SSD Mixed and IT and HW RAID mode.

Serviceability
Hot Swap Modules and Drawer Pull-out Design, No Cable Arm, and No Single Point of Failure.

New X12 Cloud Density Top Loading Family

Next Generation 60 or 90-Bay Single, Dual Node and High Available Architecture Innovation

Top Loading Storage 4U

SSG-640SP-(D)E1(2)CR60

60x Hot-Swap 3.5" 12Gb/s Single, Dual and HA Storage

SSG-640SP-(D)E1(2)CR90

90x Hot-Swap 3.5" 12Gb/s Single, Dual and HA Storage

CSE-947SE1(2)C-R1K66JBOD
CSE-947HE1(2)C-R2K05JBOD

60/90x Hot-Swap 3.5" 12Gb/s Single and Dual Expender

Top Loading JBOD 4U

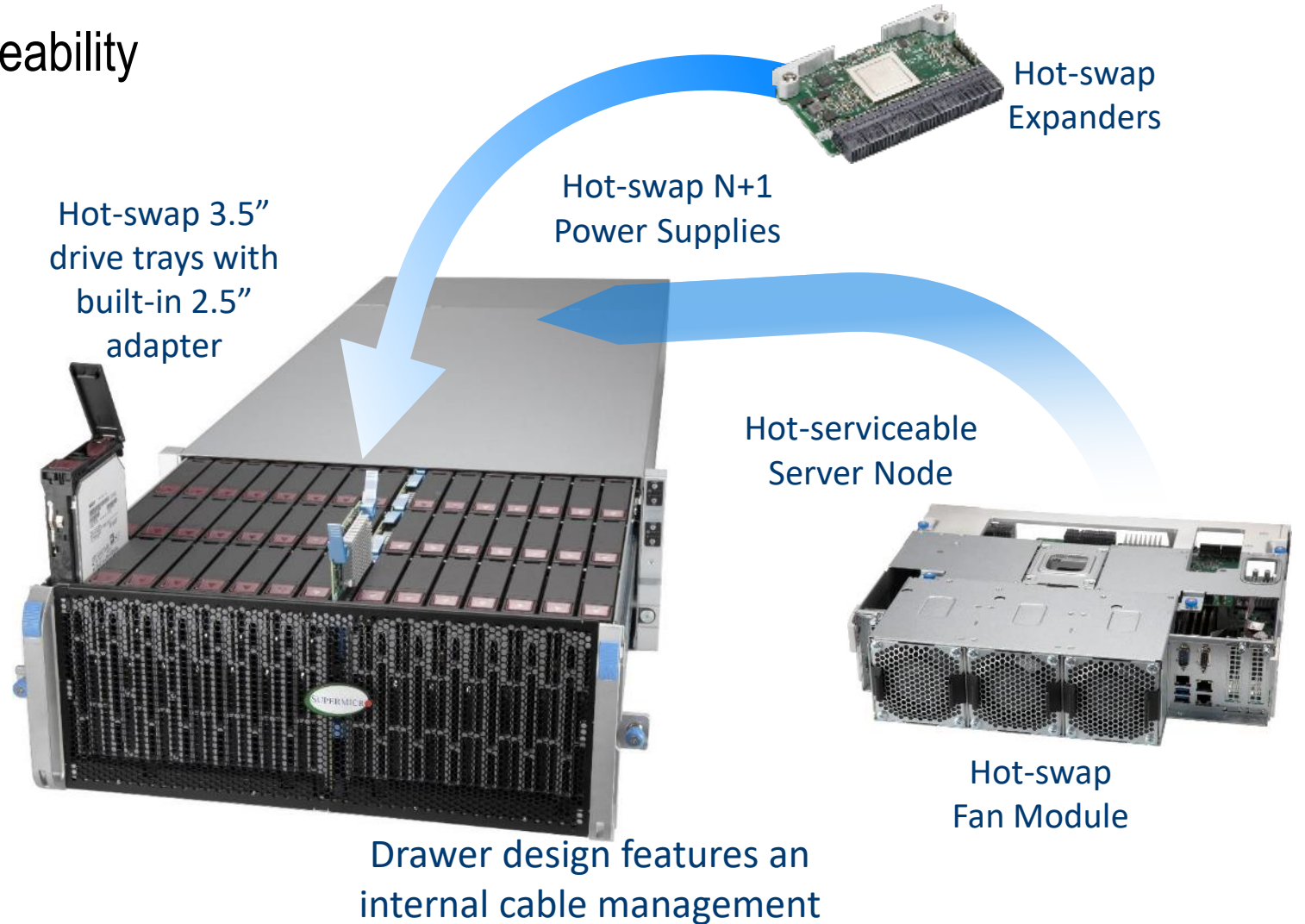# New 4U Top Loading Field Service Optimized

Designed for Active Field Serviceability

- ✓ Passive Mid-plane, Backplane
- ✓ No CMA required!
- ✓ Tool-less access
- ✓ "Drawer" pull-out design
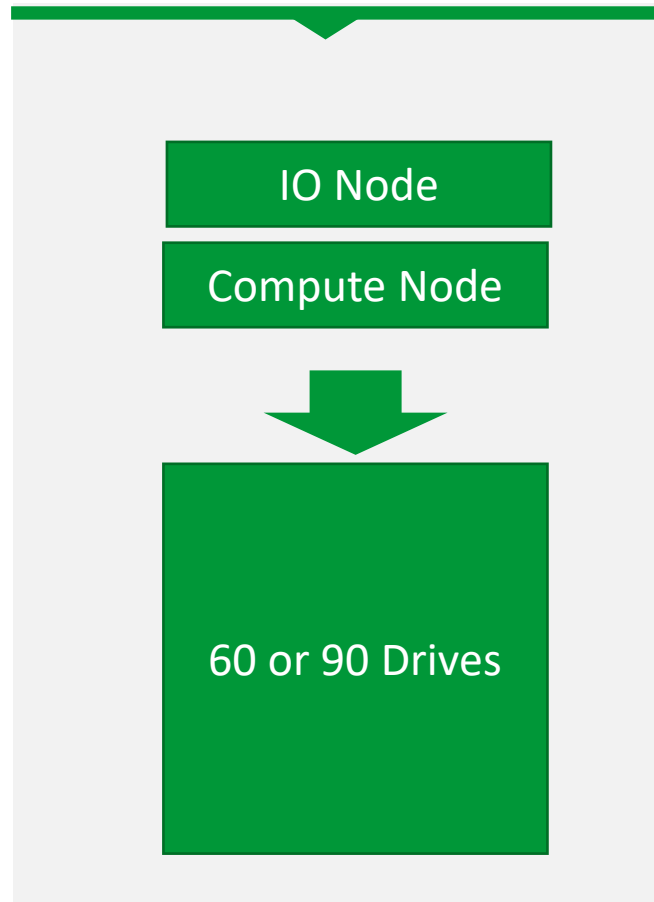
Field-Replaceable Unit

- ✓ Serviceable/Hot-swap Nodes (SBB)
- ✓ Serviceable/Hot-swap Expanders (SBB)
- ✓ Hot-swap Drive Modules
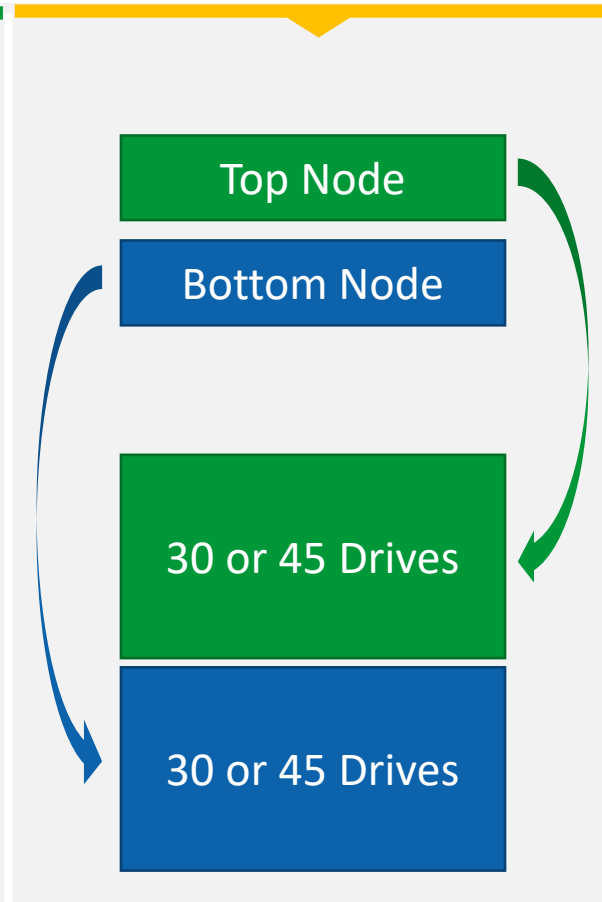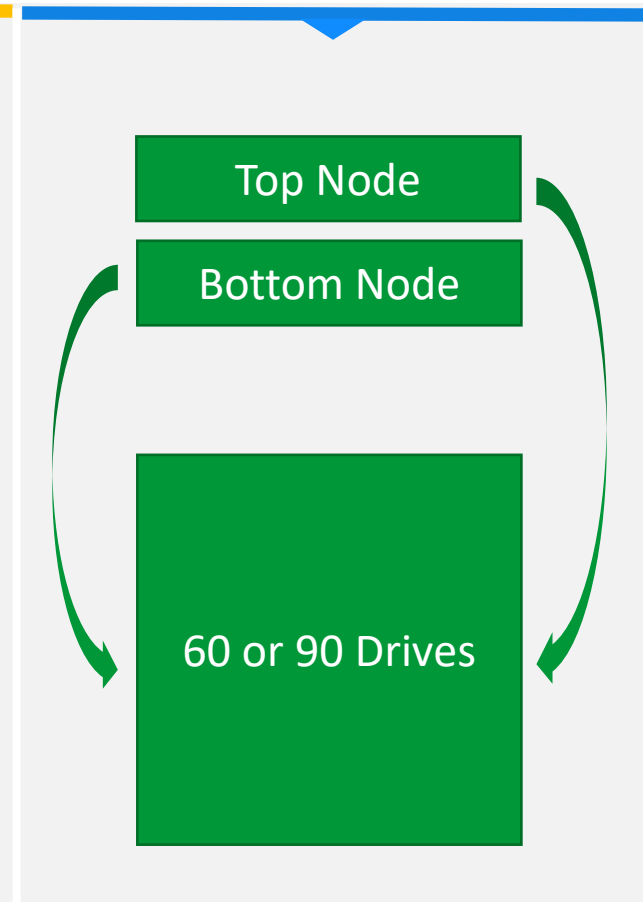- ✓ Hot-swap Power Supplies

Hot-swap 3.5" drive trays with built-in 2.5" adapter

Hot-swap N+1 Power Supplies

Hot-swap Expanders

Hot-serviceable Server Node

Hot-swap Fan Module

Drawer design features an internal cable management

New 4U Top Loading Storage Architecture

60/90 Single Node

60/90 Dual Nodes (Twin)

60/90 Dual Nodes (HA)

IO Node

Compute Node

60 or 90 Drives

Top Node

Bottom Node

30 or 45 Drives

30 or 45 Drives

Top Node

Bottom Node

60 or 90 Drives

New 4U Top Loading Chassis Architecture

Single Node Chassis Rear View

2x Hot-swap
2.5" SATA SSD

4x U.2 Hot-swap
NVMe Drive Bays
(optional)

Redundant
2600W
Titanium 80 1+1
Power Supplies

Serial port

VGA Port

1x PCI-E 4.0
x16 HHHL

1x PCI-E 4.0
x16 HHHL

1x PCI-E 4.0
x16 HHHL

6x Hot-swap
Counter-rotate Fans

1x IPMI

2x RJ45 10GbE LAN Ports

2x USB 3.0
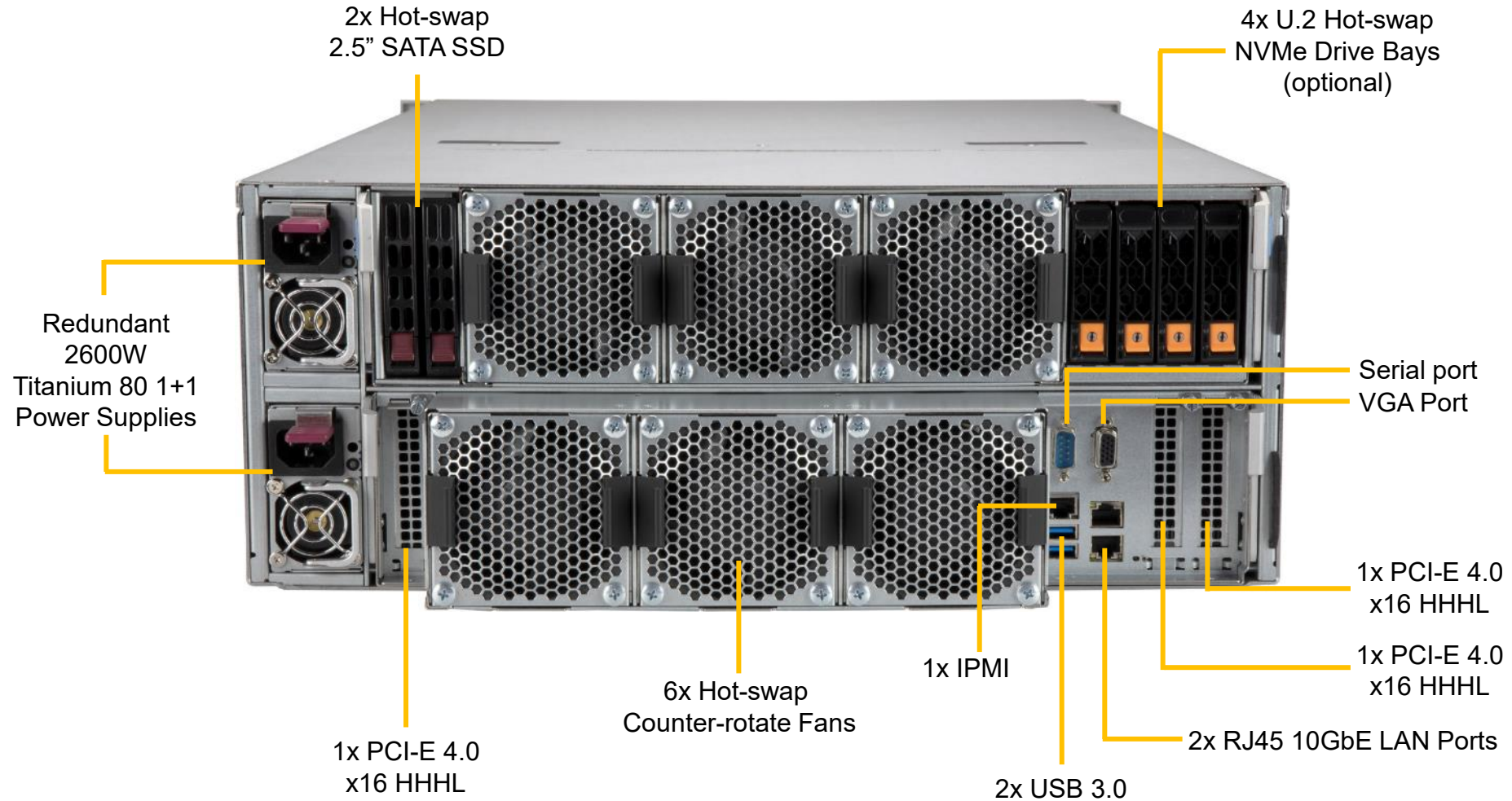
New 4U Top Loading Chassis Architecture

Dual Node Chassis Rear View

1x PCI-E 4.0 x16 HHHL

1x IPMI

2x USB 3.0

Serial port

VGA Port

1x PCI-E 4.0 x16 HHHL

1x PCI-E 4.0 x16 HHHL

Redundant 2600W Titanium 80 1+1 Power Supplies

Serial port

VGA Port

1x PCI-E 4.0 x16 HHHL

1x PCI-E 4.0 x16 HHHL

1x IPMI

2x RJ45 10GbE LAN Ports

1x PCI-E 4.0 x16 HHHL

6x Hot-swap Counter-rotate Fans

2x USB 3.0
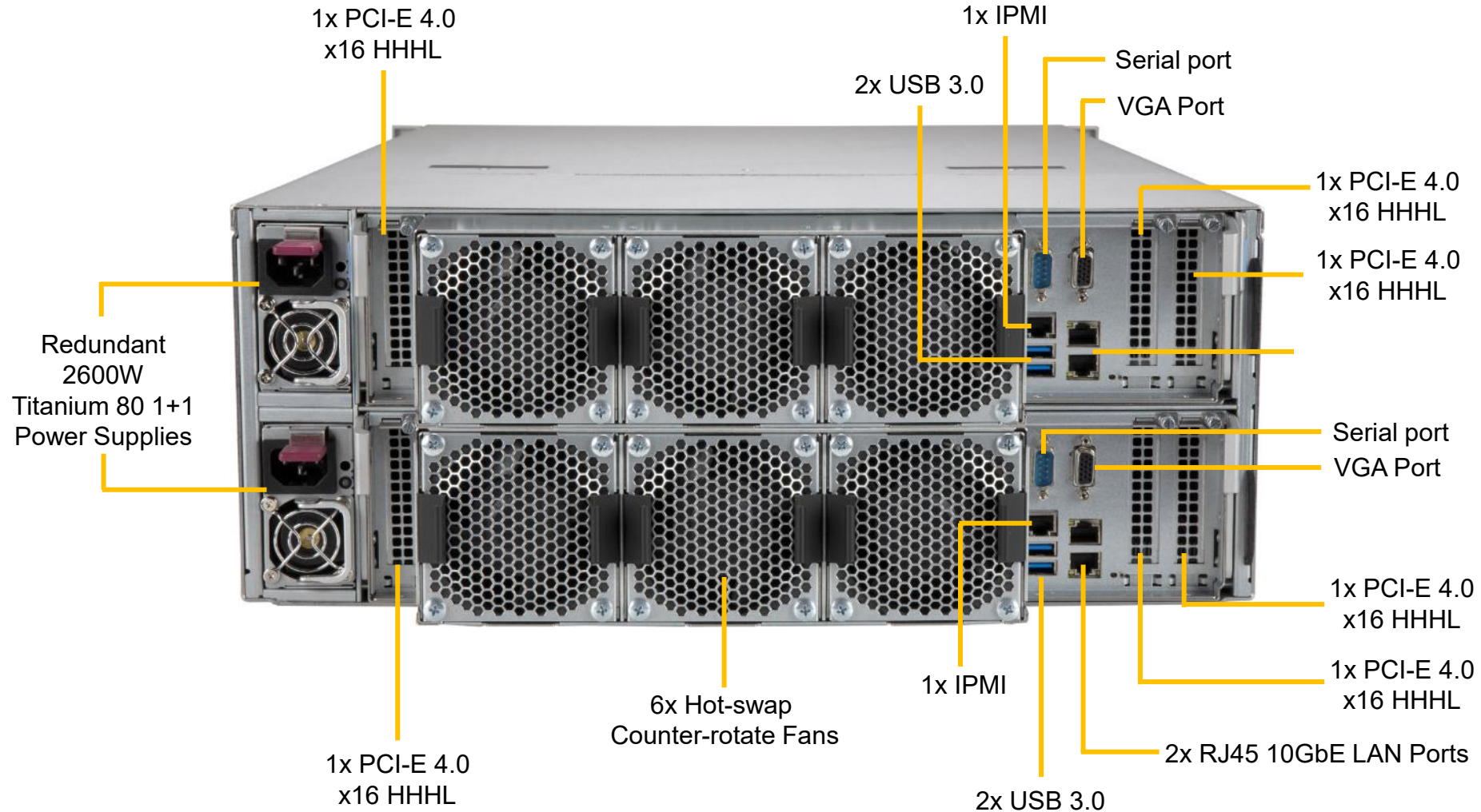
X12 Top Loading 4U60 **Single** Node Storage

SSG-640SP-E1CR60 (Coming Soon)

Specifications

Processor Support
- Dual 3nd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 3x PCI-E 4.0 x16

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 60x Hot-swap 2.5" or 3.5" drive bays (SAS3/SATA3)
- 2x rear Hot-swap 2.5" SATA drive bays
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots
- 4 rear NVMe U.2 bays for cache support (optional)

Storage Controller
- Broadcom SAS 3616 AOM, 3816 AOC (IT mode)
- Broadcom SAS 3916, 3908 AOC (HW RAID mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2000W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 34.1" (D)

Subject to change without notice

X12 Top Loading 4U90 **Single** Node Storage

SSG-640SP-E1CR90 (Coming Soon)

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 3x PCI-E 4.0 x16

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 90x Hot-swap 2.5" or 3.5" drive bays (SAS3/SATA3)
- 2x rear Hot-swap 2.5" SATA drive bays
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots
- 4 rear NVMe U.2 bays for cache support (optional)

Storage Controller
- Broadcom SAS 3616 AOM, 3818 AOC (IT mode)
- Broadcom SAS 3916, 3908 AOC (HW RAID mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2600W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 42.9" (D)

Subject to change without notice

X12 Top Loading 4U60 **Dual** Node Storage

SSG-640SP-DE1CR60 (Coming Soon)

Processor Support (per node)
- Dual 3nd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity (per node)
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion (per node)
- 3x PCI-E 4.0 x16

Networking & I/O (per node)
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays (per node)
- 30x Hot-swap 2.5" or 3.5" drive bays (SAS3/SATA3)
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots

Storage Controller
- Broadcom SAS 3616 AOM, 3816 AOC (IT mode)
- Broadcom SAS 3916, 3908 AOC (HW RAID mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2600W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 34.1" (D)

Subject to change without notice

X12 Top Loading 4U90 **Dual** Node Storage

SSG-640SP-DE1CR90 (Coming Soon)

Processor Support (per node)
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity (per node)
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion (per node)
- 3x PCI-E 4.0 x16

Networking & I/O (per node)
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays (per node)
- 45x Hot-swap 2.5" or 3.5" drive bays (SAS3/SATA3)
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots

Storage Controller
- Broadcom SAS 3616 AOM, 3816 AOC (IT mode)
- Broadcom SAS 3916, 3908 AOC (HW RAID mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2600W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 42.9" (D)

Subject to change without notice

X12 Top Loading 4U60 **SBB** Storage

SSG-640SP-DE2CR60 (Coming Soon)

Processor Support (per node)
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity (per node)
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion (per node)
- 3x PCI-E 4.0 x16

Networking & I/O (per node)
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port
- **PCIe Gen3 x16 NTB and 1GbE Private Ethernet for node to node communication**

Drive Bays
- 60x Hot-swap 2.5" or 3.5" drive bays (SAS3)
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots (per MB tray)

Storage Controller
- Broadcom SAS 3616 AOM (IT mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2600W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 34.1" (D)

Subject to change without notice

X12 Top Loading 4U90 **SBB** Storage

SSG-640SP-DE2CR90 (Coming Soon)

Processor Support (per node)
- Dual 2nd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity (per node)
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion (per node)
- 3x PCI-E 4.0 x16

Networking & I/O (per node)
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port
- **PCIe Gen3 x16 NTB and 1GbE Private Ethernet for node to node communication**

Drive Bays
- 90x Hot-swap 2.5" or 3.5" drive bays (SAS3)
- 2 onboard PCIe x2 M.2 slots and 2 internal slim SATA SSD slots (per MB tray)

Storage Controller
- Broadcom SAS 3616 AOM (IT mode)

System Cooling
- 6x Heavy duty counter-rotate redundant PWM cooling fans

Power Supply
- 2x 2600W High-efficiency (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.68" (W) x 6.9" (H) x 42.9" (D)

Subject to change without notice

Cloud Scale Top Loading Market Opportunity

Backup and Recovery
Deep Archive and Active Archive
Big Data & Analytic, Data Lake
HPC and AI/ML Workloads
Content Repositories

On-premise Hybrid Cloud

Enterprise

Cloud

ceph
Red Hat
openSUSE
lustre File System
SCALITY
nexenta
BeeGFS

Telco & Cloud Service Providers
Media & Entertainment
Financial Service
Healthcare Image Archive
Government Data Protection

New Top Loading Platform Innovation

	Supermicro	**W Company**	**S Company**
Architecture	**Unify Design** (60 or 90 bay) Single, Dual, SBB Storage and JBOD	68 bay for Storage & 102 bay for JBOD	96 bay Single & Dual node 106 bay for JBOD
Compute	Intel Xeon Scalable CPU (up to **205W** TDP) **16x DDR4-2933** DIMM slots support Intel Optane DCPMM	Intel Xeon Scalable CPU (up to 165W TDP) 16x DDR4-2666 DIMM slots	Intel Xeon Scalable CPU (up to 105W TDP) 12x DDR4-2666 DIMM slots
Serviceability & Dimensions (Depth)	**Drawer Design** w/o Cable Management Arm 60 bay (**32.4"**, fit-in Standard Rack) 90 bay (**41.4"**, fit-in 1.2m Rack)	Storage (46.34") w/ CMA JBOD (47.13") w/ dual CMA	Storage and JBOD 44.8"
Future Ready	**X12** (Gen 4) MB Drop-in Ready	N/A	N/A

X12 4U Top Loading Overview

Coming Soon!

60/90 Single Node	60/90 Dual Nodes	60/90 Dual Nodes (HA)

SSG-640SP-E1CR60
SSG-640SP-E1CR90

SSG-640SP-DE1CR60
SSG-640SP-DE1CR90

SSG-640SP-DE2CR60
SSG-640SP-DE2CR90

- Highest density storage platform in 4U rack size.
- Support dual Intel Xeon Scalable CPUs up to 205W TDP.
- 2x rear mirrored boot drives and 4X NVMe SSD drives for caching.

- Twin Architecture and each node controls 30 or 45 drives (Share Nothing).
- Double Compute, DRAM and IO Bandwidth.

- Enterprise High Availability (SBB) Architecture (Shared Storage).
- Fully serviceable and redundant storage and provide highest QoS and 99.999% up time.

Storage – 1U12 Drawer Storage

X11 1U12 Drawer Storage

SSG-6019P-ACR12L+ (Released)

Processor Support
- Dual 2nd Gen Intel® Xeon® Scalable (Cascade Lake-Refresh) processors, up to 205W TDP

Memory Capacity
- 12x DIMM slots, Up to 3TB ECC 3DS LRDIMM, DDR4-2933
- Supports Intel® Optane™ Persistent Memory

Expansion
- 3x PCI-E 3.0 x16

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 12x Hot-swap 3.5" drive bays (SAS3/SATA3)
- 4x front Hot-swap 2.5" NVMe/SATA drive bays
- 1 Onboard M.2 NVMe slot (up to 110mm)

Storage Controller
- Broadcom SAS 3216 AOM (IT mode)

System Cooling
- 6x 40mm counter-rotate redundant PWM cooling fans

Power Supply
- 800W (Platinum level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.6" (W) x 1.7" (H) x 37.4" (D)

Subject to change without notice

X12 1U12 Drawer Storage

SSG-610P-ACR12N4L/H (Coming Soon)

Processor Support
- Dual 3nd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 3x PCI-E 4.0
- 1x AIOM PCI-E 4.0 x16 (OCP 3.0)

Networking & I/O
- 2x 25GBe SFP28
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 12x Hot-swap 3.5" drive bays (SAS3/SATA3)
- 4x E1.S NVMe and 2x Hybrid NVMe/SATA (7mm) drive bays
- 2x Onboard M.2 NVMe/SATA slot (up to 22x80mm)

Storage Controller
- Broadcom SAS 3916 (HW RAID)
- Broadcom SAS 3816 (IT Mode)

System Cooling
- 6x 40mm counter-rotate redundant PWM cooling fans

Power Supply
- 800W (Platinum level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port
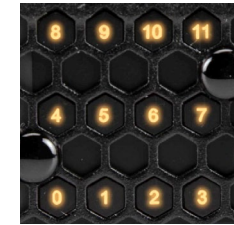
Dimensions
- 17.6" (W) x 1.7" (H) x 37.4" (D)

Subject to change without notice

X12 1U12 Drawer Chassis Architecture

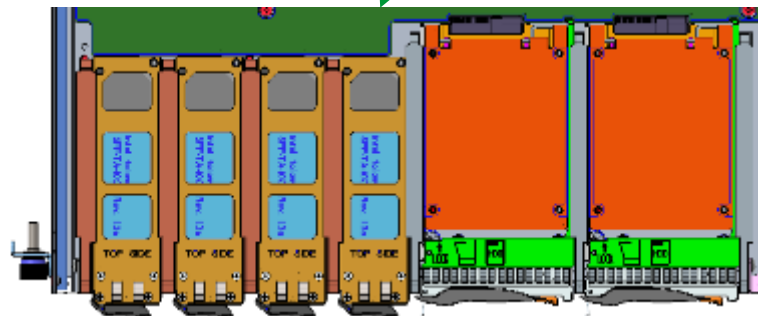**SSG-610P-ACR12N4L/H (Coming Soon)**

Front LED Indicator

4x E1.S NVMe SSD

2x 2.5 NVMe/SATA SSD

4x E1.S Gen4 x4 (from CPU)

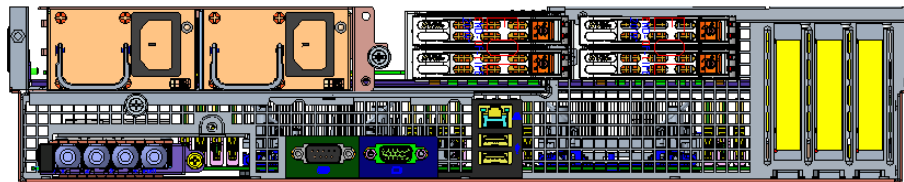2x 7mm SATA/NVMe Gen3 x4 (from PCH for Boot Drive)

Storage – 2U24 Simply Double

X12 2U24 3.5" Simply Double Storage

SSG-620P-E1CR24H/L (Coming Soon)

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 205W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 2x PCI-E 4.0 x16, 1x PCI-E 4.0 c8 and 1x AIOM x16

Networking & I/O
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 24x Hot-swap 3.5" (SAS3/SATA3) drive bays
- 4x rear Hot-swap 2.5" SAS3/SATA3/NVMe hybrid drive bays
- 2x Onboard M.2 NVME/SATA slots (22x80mm)

Storage Controller
- Broadcom SAS 3916 AOC (HW RAID)
- Broadcom SAS 3816 AOC (IT Mode)

System Cooling
- 5x 80mm high-performance PWM fans

Power Supply
- 1600W (Titanium level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 3.5" (H) x 34" (D)

Subject to change without notice

Storage – General Purpose Family

X12 Enterprise Optimized Storage Family

Optimized Storage Building Blocks for Both Scale-Up and Scale-Out SDS

SuperStorage
4U

SSG-640P-E1CR24 H/L

24x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

SSG-640P-E1CR36 H/L

36x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

SSG-620P-E1CR12 H/L

12x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

SuperStorage
2U

SSG-620P-E1CR16 H/L

16x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

X12 2U 3.5" 12 Bay Storage

SSG-620P-ACR12H/L (Coming Soon)

Specifications

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 270W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 4x PCI-E 4.0 x16 and 2x PCI-E 4.0 x8 (slot 1 occupied by SAS controller)

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 12x Hot-swap 3.5" (SAS3/SATA3) drive bays
- 4x rear Hot-swap 2.5" SAS3/SATA3 drive bays
- 4x Hybrid Hot-Swap NVMe bays
- 1x Onboard M.2 NVMe slot (110mm)

Storage Controller
- Broadcom SAS 3916 AOC (HW RAID)
- Broadcom SAS 3816 AOC (IT Mode)

System Cooling
- 3x 80mm high-performance PWM fans

Power Supply
- 1200W (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 3.5" (H) x 24.8" (D)

Subject to change without notice

X12 2U 3.5" 16 Bay Storage

SSG-620P-ACR16H/L (Coming Soon)

Specifications

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 270W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 4x PCI-E 4.0 x16 and 2x PCI-E 4.0 x8 (slot 1 occupied by SAS controller)

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 16x Hot-swap 3.5" (SAS3/SATA3) drive bays
- 2x rear Hot-swap 2.5" SAS3/SATA3 drive bays
- 4x Hybrid Hot-Swap NVMe bays
- 1x Onboard M.2 NVMe slot (110mm)

Storage Controller
- Broadcom SAS 3916 AOC (HW RAID)
- Broadcom SAS 3816 AOC (IT Mode)

System Cooling
- 4x 80mm high-performance PWM fans

Power Supply
- 1600W (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 3.5" (H) x 24.8" (D)

Subject to change without notice

X12 4U 3.5" 24 Bay Storage

SSG-640P-E1CR24H/L (Coming Soon)

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 270W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 4x PCI-E 4.0 x16 and 2x PCI-E 4.0 x8 (slot 3 occupied by SAS controller)

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 24x Hot-swap 3.5" (SAS3/SATA3) drive bays
- 2x rear Hot-swap 2.5" SAS3/SATA3 drive bays
- 4x Hybrid Hot-Swap NVMe bays
- 1x Onboard M.2 NVMe slot (110mm)

Storage Controller
- Broadcom SAS 3908 AOC (HW RAID)
- Broadcom SAS 3808 AOC (IT Mode)

System Cooling
- 5x 80mm high-performance PWM fans

Power Supply
- 1200W (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 7" (H) x 26.5" (D)

Subject to change without notice

X12 4U 3.5" 36 Bay Storage

SSG-640P-E1CR36H/L (Coming Soon)

Processor Support
- Dual 3rd Gen Intel® Xeon® Scalable (Ice Lake) processors, up to 270W TDP

Memory Capacity
- 16x DIMM slots, Up to 4TB ECC 3DS LRDIMM, DDR4-3200
- Supports Intel® Optane™ Persistent Memory

Expansion
- 4x PCI-E 4.0 x16 and 2x PCI-E 4.0 x8 (slot 3 occupied by SAS controller)

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 4x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 36x Hot-swap 3.5" (SAS3/SATA3) drive bays
- 2x rear Hot-swap 2.5" SAS3/SATA3 drive bays
- 4x Hybrid Hot-Swap NVMe bays
- 1x Onboard M.2 NVMe slot (110mm)

Storage Controller
- Broadcom SAS 3908 AOC (HW RAID)
- Broadcom SAS 3808 AOC (IT Mode)

System Cooling
- 7x 80mm high-performance PWM fans

Power Supply
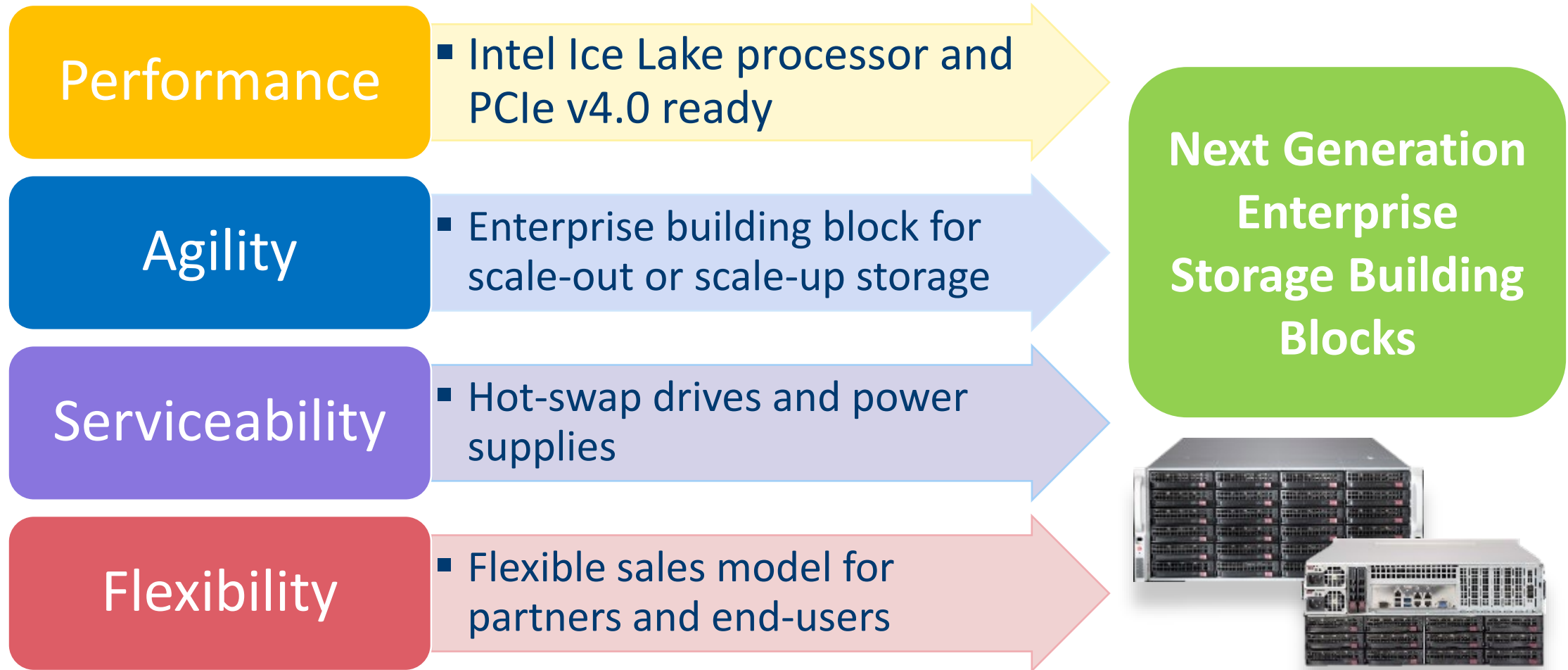- 1200W (Titanium level, 96%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 7" (H) x 27.5" (D)

Subject to change without notice

X12 Enterprise Optimized Storage Advantages

Performance
- Intel Ice Lake processor and PCIe v4.0 ready

Agility
- Enterprise building block for scale-out or scale-up storage

Serviceability
- Hot-swap drives and power supplies

Flexibility
- Flexible sales model for partners and end-users

Next Generation Enterprise Storage Building Blocks

Storage – 1U32 All-Flash Family

X11 1U32 NVMe All Flash Storage Family

Petascale NVMe Solution with Unprecedented Density and Performance

Super Storage 1U

SSG-1029P-NES32R

32 x EDSFF Short (E1.S) NVMe SSD

SSG-1029P-NEL32

32 x EDSFF Long (E1.L) NVMe SSD

SYS-1029P-N32R

32 x U.2 NVMe SSD

Super JBOF 1U

SSG-136R-NE32JBF & SSG-136R-N32JBF

32 x E1.L & 32 x U.2 NVMe SSD JBOF

EDSFF Long and Short Family

9.5mm E1.L

18mm E1.L

EDSFF Long

5.9mm E1.S

25mm E1.S

9.5mm E1.S

15mm E1.S

EDSFF Short

X11 1U32 EDSFF Long Storage Server

SSG-1029P-NEL32R (Released)

Processor Support
- Dual 2nd Gen Intel® Xeon® Scalable (Cascade Lake-Refresh) processors, up to 165W TDP

Memory Capacity
- 24x DIMM slots, Up to 6TB ECC 3DS LRDIMM, DDR4-2933
- Supports Intel® Optane™ Persistent Memory

Expansion
- 2x PCI-E 3.0 x16

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 32x Hot-swap EDSFF long (E1.L) 9.5mm NVMe bays
- 2x Onboard SATA M.2 slot (110mm)

System Cooling
- 8x 40mm high-performance PWM fans

Power Supply
- 1600W (Platinum level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 1.7" (H) x 35.95" (D)

Subject to change without notice

X11 1U32 EDSFF Short Storage Server

SSG-1029P-NES32R (Released)

Processor Support
- Dual 2nd Gen Intel® Xeon® Scalable (Cascade Lake-Refresh) processors, up to 205W TDP

Memory Capacity
- 24x DIMM slots, Up to 6TB ECC 3DS LRDIMM, DDR4-2933
- Supports Intel® Optane™ Persistent Memory

Expansion
- 2x PCI-E 3.0 x16 and 1x PCI-E 3.0 x8

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 32x Hot-swap EDSFF short (E1.S) 9.5mm NVMe or M.2 bays

System Cooling
- 8x 40mm high-performance PWM fans

Power Supply
- 1600W (Platinum level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 1.7" (H) x 30" (D)

Subject to change without notice

X11 1U32 U.2 Storage Server

SYS-1029P-N32R (Released)

Processor Support
- Dual 2nd Gen Intel® Xeon® Scalable (Cascade Lake-Refresh) processors, up to 140W TDP

Memory Capacity
- 24x DIMM slots, Up to 6TB ECC 3DS LRDIMM, DDR4-2933
- Supports Intel® Optane™ Persistent Memory

Expansion
- 2x PCI-E 3.0 x16

Networking & I/O
- 2x 10GBase-T LAN ports
- 1x RJ45 Dedicated IPMI LAN port
- 2x USB 3.0 ports, 1x VGA ports and 1x Serial port

Drive Bays
- 32x Hot-swap U.2 NVMe bays (Dual Drawer/Tray)
- 2x Onboard SATA M.2 slots

System Cooling
- 8x 40mm high-performance PWM fans

Power Supply
- 1600W (Platinum level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port
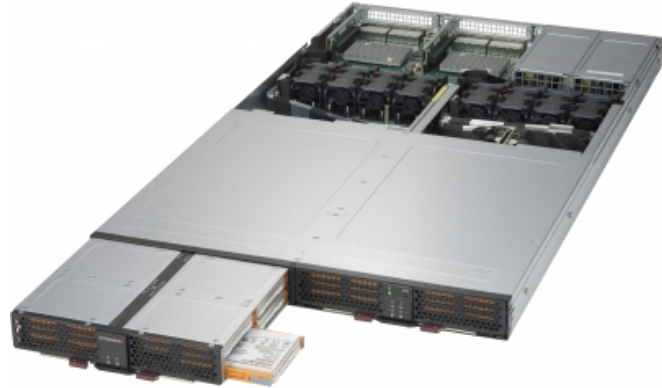
Dimensions
- 17.2" (W) x 1.7" (H) x 35.95" (D)

Subject to change without notice

X11 1U32 U.2 JBOF

SSG-136R-N32JBF (Released)

Expansion
- 2x PCI-E 3.0 x16

Networking & I/O
- 4 PCI-E x16 mini-SAS HD ports
- 2x RJ45 Dedicated IPMI LAN port

Drive Bays
- 32x Hot-swap U.2 NVMe bays (Dual Drawer/Tray)

System Cooling
- 8x 40mm high-performance PWM fans

Power Supply
- 1000W (Titanium level, 80%) redundant supply

System Management
- Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port

Dimensions
- 17.2" (W) x 1.7" (H) x 31.95" (D)

Subject to change without notice

Storage – High Availability (SBB)

SSG Storage Bridge Bay

Storage Platform for Dual-Controller Storage Systems

- SSG SBB is optimized for mission-critical, enterprise-level storage applications which incorporate SAS, NVMe and FC storage solutions for flexibility and provides hot-swappable canisters for all active components in the server for ease of servicing.

- High Available Architecture
  - Complete redundant, fault-tolerant, hot-swappable active components
  - Dedicated high speed canister to canister connection (NTB and 1GbE) for heartbeat and data replication.
  - Dual port storage media required

X11 High Availability (SBB) Storage Family

Enterprise Storage Building Blocks for Cluster-in-A-Box Architecture

SuperStorage 3/4U

SSG-6038R-DE2CR16L

16x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

SSG-6048R-DE2CR24L

24x Hot-Swap 3.5" 12Gb/s SAS3/SATA3 Bays

-> SAS moving to top-loading SBB

SSG-2028R-DE2CR24L

24x Hot-Swap 2.5" 12Gb/s SAS3/SATA3 Bays

SuperStorage 2U

SSG-2029P-DN2R24L

24x Hot-Swap dual port U.2 NVMe bays

SuperStorage Key Value Proposition

Flexibility

- Flexible configurations to match different workloads
  - Processor
  - Memory
  - Networking
  - Storage Media

TOSHIBA • Mellanox • SEAGATE • Micron • intel • SAMSUNG • NVIDIA • BROADCOM • WD Western Digital

Quality

- Vendors component compatibility verification.
- System integrity test for best quality and reliability.
- Key components warranty coverage.

Availability

- Global manufacturing and inventory.
- Quick manufacturing turn around time.
- Modular building block designs.

DISCLAIMER

Super Micro Computer, Inc. may make changes to specifications and product descriptions at any time, without notice. The information presented in this document is for informational purposes only and may contain technical inaccuracies, omissions and typographical errors. Any performance tests and ratings are measured using systems that reflect the approximate performance of Super Micro Computer, Inc. products as measured by those tests. Any differences in software or hardware configuration may affect actual performance, and Super Micro Computer, Inc. does not control the design or implementation of third party benchmarks or websites referenced in this document. The information contained herein is subject to change and may be rendered inaccurate for many reasons, including but not limited to any changes in product and/or roadmap, component and hardware revision changes, new model and/or product releases, software changes, firmware changes, or the like. Super Micro Computer, Inc. assumes no obligation to update or otherwise correct or revise this information.

SUPER MICRO COMPUTER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE CONTENTS HEREOF AND ASSUMES NO RESPONSIBILITY FOR ANY INACCURACIES, ERRORS OR OMISSIONS THAT MAY APPEAR IN THIS INFORMATION.

SUPER MICRO COMPUTER, INC. SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL SUPER MICRO COMPUTER, INC. BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, SPECIAL OR OTHER CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF ANY INFORMATION CONTAINED HEREIN, EVEN IF SUPER MICRO COMPUTER, Inc. IS EXPRESSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

ATTRIBUTION

Thank You

www.supermicro.com